

CLAIMS

1. A method of preparing a silica particle agglomerate comprising
 - a) adding an aluminum phosphate agglomerating agent with mixing to an aqueous dispersion of colloidal silica particles to form an aqueous homogeneous dispersion of silica particles and agglomerating agent; and
 - b) adjusting the pH of the dispersion with mixing to about 3.5 to about 8.5 to agglomerate the silica particles.
2. The method of claim 1 wherein the colloidal silica particles have a particle size of about 3 nm to about 150 nm as measured by quasi elastic light scattering.
3. The method of claim 1 wherein the agglomerated silica particles have a median, d50(V), particle size of about 150 nm to about 900 nm as measured by laser light scattering.
4. The method of claim 1 wherein the pH is adjusted to about 4 to about 6.
5. The method of claim 4 wherein the pH is adjusted using aqueous sodium hydroxide, aqueous potassium hydroxide or aqueous ammonium hydroxide.
6. The method of claim 4 wherein the pH is adjusted by mixing the dispersion of silica particles and agglomerating agent with an aqueous pH buffer solution.
7. The method of claim 1 further comprising applying a metal oxide coating such as alumina, ceria or titania coating to the agglomerated silica particle.
8. An ink-receptive coating for a substrate comprising agglomerated silica particles prepared according to the method of claim 1.
9. Paper for use in an ink printing device comprising paper and agglomerated silica particles prepared according to the method of claim 1 applied to the surface of the paper.

10. A method of preparing ink jet printer paper comprising applying agglomerated silica particles prepared according to the method of claim 1 to the surface of the paper.

5 11. A catalyst support comprising agglomerated silica particles prepared according to the method of claim 1.

12. A reinforcing filler composition comprising agglomerated silica particles prepared according to the method of claim 1.

10

13. A flattening agent comprising agglomerated silica particles prepared according to the method of claim 1.